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Implicitly Grounded Beliefs

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Biography

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Abstract

In 1945, W.T. Stace addressed the epistemic status of the “unreasoned belief,” one that “is neither a case of immediate knowledge nor has been reached by a process of reasoning.” In this paper I call such beliefs “implicitly grounded beliefs” (IGBs) because, as Stace acknowledged, their commonality lies not in their being unreasoned or unreasonable, but in the implicitness of their grounds. Stace argued that if philosophers employ implicitly grounded beliefs in their work, they must try to reconstruct the inexplicit processes that led to them. This may be so, but the question of how implicitly grounded beliefs should be treated in academic works is separate from the question of whether or not such beliefs can be justified, warranted, and known. Here I first explore the nature of implicitly grounded beliefs and then—drawing upon the most common internalist, externalist, and aretaic conceptions of positive epistemic status—I argue that implicitly grounded beliefs can indeed be justified, warranted, and known.

Keywords

Epistemology, implicitly grounded beliefs, intuition, experts, W.T. Stace, warrant, justification, internalism, externalism, aretaism, special access, perspectively basic beliefs

In 1945, W.T. Stace addressed the epistemic status of the “unreasoned belief,” one that “is neither a case of immediate knowledge nor has been reached by a process of reasoning” (1945a, 29). In this paper, I call such beliefs “implicitly grounded beliefs” (IGBs) because, as Stace acknowledged, their commonality lies not in their being unreasoned or unreasonable, but in the implicitness of their grounds:

Except perhaps in the case of beliefs produced by pure random conditioning, the so-called unreasoned beliefs only *appear* to be unreasoned, and the psychological processes only *appear* to be non-logical. Most of them are in their essence reasoning processes, though the reasoning may be more or less crude. We are not aware of their rational character, or even of their existence, because of their unexplicitness. (1945b, 141)

Stace bemoaned the fact that philosophers appeal to unreasoned beliefs in their work:

Can we say anything which could put a stop to the present practice of treating [unreasoned beliefs] all alike as final authorities, without any discrimination of their respective merits, so that philosophy is simply a battleground of final authorities which contradict one another? (1945b, 143)

Stace argued that if philosophers employ implicitly grounded beliefs in their work, they must try to reconstruct the inexplicit processes that led to them. But the question of how implicitly grounded beliefs should be treated in academic works is separate from the question of whether or not such beliefs can be justified, warranted, and known. After exploring the nature of implicitly grounded beliefs below, I will argue that they can be.

I. Implicitly Grounded Beliefs – An Introduction

A. Formed by inexplicit reasoning processes

Scott Johnston, founder of Sterling Financial Group, consistently outperformed other well-trained and experienced money managers, even though his strategies were similar to those of managers who fail. When asked whether there was some other factor behind his success, Johnston responded,

Yes, there is. It's that the very best managers develop a sixth sense where they just know that a stock is going to move...You develop a sixth sense, an instinct. We're talking art here, not science. Many have the ability, the training, the commitment, but few have the touch... It's visceral. You just sense it. You know that a stock's got all the elements to be a winner. It just feels right; it's ready to move. (Tannous 1997, 163)

Every field harbors remarkable people who seem to have amazing, intuitive ways of knowing. These experts seem to arrive at justified and warranted beliefs, even though they cannot specify all of their grounds or methodologies. There are chess masters who know just the right move to make while playing twenty opponents simultaneously, interviewers with a knack for evaluating job candidates, fishermen who have a "feel" for "reading a river," detectives with an uncanny insight for solving crimes, nurses who implicitly pick up on subtle cues to conclude that a newborn is in trouble, social workers who know exactly what kind of help will work for a client, performance artists who

intuitively know when the audience is ready for a bit of humor, interpretive dancers who can just sense the best time to pause, mathematical prodigies who perform incredible calculations instantly, and parents who have an intuitive grasp of a child's state of mind that outsiders do not possess.

In one survey, seventy-two of eighty-three Nobel laureates in science and medicine implicated intuition in their success. 'We felt at times that there was almost a hand guiding us,' said Michael Brown, winner of the 1985 prize for medicine. 'We would go from one step to the next, and somehow we would know which was the right way to go, and I really can't tell how we knew that.' (Myers 2002, 61)

Experts are often much better at forming true beliefs in their areas of expertise than they are at verbalizing the grounds for their beliefs or at identifying the methods they employ to arrive at their beliefs (Speelman 1998. See also Griffin, Schwartz and Sofronof 1998, 333–337.). Often, when experts try to teach their skill to novices, they create a "reasonable" guess at their methodology that does not match how they actually achieve their remarkable results (Speelman 1998, 136). Rouse and Morris show that experts may employ methodologies that are not easily accessible to verbalization, such as "conceptually abstract, pattern-oriented mental models" (Rouse and Morris 1986, 145). Each of us has some area of intuitive expertise, and most of us, to some degree, can discern when another person is angry, frightened, deceptive, or trustworthy even when we cannot explicitly identify the aural or visual cues that create such convictions in us. On a more basic level, our understanding of language and grammar is mostly implicit:

An example: You know which of these two phrases sounds better: 'a big red barn' or 'a red big barn' – but your conscious mind struggles to articulate the rule you intuitively know. (Myers 2002, 52)

Even if we do not think of ourselves as particularly intuitive, we rely on implicit modes of belief-formation throughout each day of our lives.

IGBs do not arise from any special non-natural powers; they are not cases of extra-sensory perception or anything paranormal. The inputs to IGB-formation processes stem from natural sources, such as sense perception, stored memories, introspection, or reasoning (Szalita-Pemow 1955). As Stace points out, the main inexplicit reasoning processes seem to be varieties of the association of ideas (according to similarity and analogy, coherence, stability, esthetic or conceptual fittingness, etc.) (1945b, 140). In recent years the dual-process model of cognition has become ascendant (See Evans and

Frankish 2009, Barrett, Tugade and Engle 2004, and Strack and Deutsch 2004.). The System 1 processes are the “automatic, associative, nonconscious processes” (Kaufman 2009, 28) that lead to IGBs, as opposed to System 2, which involves “controlled, deliberate, reflective processes” (Kaufman 2009, 28). Others see this model as too general. For instance, Gore and Sadler-Smith delineate four primary types of intuition (what I am calling IGBs): problem-solving, creative, social, and moral. Each type of IGB comes about through distinct processes, and involves the activation of different parts of the brain (Gore and Sadler-Smith 2011). Some IGBs may arise from the process of chunking, where a thinker accrues a large number of perceptual patterns, called *chunks*, which are “a collection of elements having strong associations with one another, but weak associations with elements within other chunks” (Gobet, et al. 2001, 236). These chunks may be organized into larger patterns, or *templates*.¹ Some intuitive people may employ largely spatial or pictorial mental models, which helps to explain why they may be unable to verbalize the grounds for their beliefs (Rouse and Morris 1986). Each mental process may be impacted by desires, moods, emotions, personality (optimism or pessimism; attitude towards risk), and cognitive style. Implicitly grounded beliefs may flash into consciousness like an *a priori* intuition, but they are actually the result of previous experience and thought. The effect of previous learning on present thought, even apart from conscious remembrance of that learning, has been well documented.² Past experiences and reasoning provide the materials for inexplicit belief-formation processes.³

It is important to emphasize that IGBs are not guesses. Implicitly grounded beliefs differ from guesses in three ways. First, a guess comes about when one has nothing to go on. For example, I meet someone I’ve never seen before who asks me which of his

1. “Templates, which are a special kind of chunk, possess both a core, made of stable information, and slots, made of variable information.” Chassy and Gobet 2011, 200.

2. For instance, R. Crutchfield (Crutchfield 1960) demonstrated that a subject’s ability to solve puzzles increased significantly if she had previous experience solving similar puzzles. He gave subjects spatial organization puzzles to solve which involved principles some of which were pertinent to later puzzles. He found that subjects who had previous experience with puzzles exhibiting relevant principles were much more successful in solving those puzzles, even though the subjects themselves could not recall any of the principles nor did they recall conscious use of them. For more discussion of the implicit influence of previous experience on present thought, see Eyesenck 1990, Schachter 1987, Myers 2002, Kunst-Wilson and Zajonc 1980, and Graf and Masson 1993.

3. Among the many philosophers, psychologists, mathematicians, and scientists who have explored or employed the notion of inexplicit reasoning processes as the source of implicitly grounded beliefs are Berne 1949, Berne 1962, Bunge 1962, Hadamard 1954, Mach 1896, Poincare 1946, Russell 1948, Russell 1956, Thrash and Elliot 2003, and Wallas 1926.

pockets contains a coin. Since I do not have any previous experience that would give me an insight into his coin-placing tendencies, I randomly choose. I guess. Conversely, implicitly grounded beliefs arise from relevant past experience and/or background beliefs and impressions that provide insight. Such relevant resources are unavailable in the case of a mere guess. Consequently, IGBs are true in significantly more cases than guesses. Finally, an IGB is often a firm conviction that a proposition is true, not an unmotivated choice. It is a kind of *belief*, whereas a guess is not.

While cognitive psychologists usually call beliefs formed in this implicit sort of way “intuitions,” in epistemological circles the term “intuition” usually indicates an *a priori* belief that concerns only abstract and necessary propositions—such as the intuition that if all A are B, and all B are C, then all A are C. IGBs are *a posteriori*, which means that one must have specific previous kinds of experience and evidence in order to form them, and they can concern all manner of propositions, including concrete and contingent propositions. When implicitly grounded beliefs do concern matters of necessity, they lack the immediacy and force of a rational intuition. Rational intuitions according to epistemologists are such that merely understanding the proposition compels belief, and yet merely understanding a proposition cannot produce an IGB. Absent evidence from past experiences, no IGB will be formed in response to a proposition like “Apple Computer stock is about to move.” For instance, when I read Professor Phelps’ proposed sufficient conditions for knowledge I think, “That can’t be right.” Only upon ample reflection do I conceive of a clear counter-example. At first I have an IGB that his conditions for knowledge are inadequate, and only later do I have the rational intuition. At that point I consider the counterexample and can “just see” that Phelps’ conditions are not sufficient.

Since I am arguing for an epistemological thesis in this paper—that such beliefs can be justified and known—I will label them not *intuitions* but *implicitly grounded beliefs (IGBs)*. (I will retain the term “intuitive” and will use it to reference those who form IGBs.) Implicitly grounded beliefs arise from thought processes not explicitly recognizable to the believer. They are sometimes basic (that is, not inferred from any other beliefs), but they are always *perspectivally* basic: The subject cannot make explicit the actual grounds of her belief, nor can she manufacture a good justifying argument for her belief. Sometimes the subject can make *some* of her grounds explicit, but not enough to provide justification for her belief.

B. Distinguished from other categories of belief

Other categories of belief are similar to rational intuitions, and each of them, like rational intuitions, is distinguishable from IGBs. These include *categorical and metaphysical intuitions*—such as the intuition of space-time, of causality, of the independent existence of objects, or of the existence of other persons; *moral intuitions*—such as the intuition that we should sometimes sacrifice our own well-being for the good of others; *mystical intuitions*—such as Bergson’s intuition into a trans-categorical unity of all events and objects, Plato’s apprehension of The Good, Heraclitus’ intuition of the *logos*, and mystical religious apprehensions of God; *paranormal deliverances*—such as beliefs formed through ESP, clairvoyance, or past-life memories.

Each of these categories of belief differ from implicitly grounded beliefs in that, like rational intuitions, they are taken to be immediate and direct apprehensions, rather than the conclusion of inexplicit reasoning processes drawing upon information gained through past experience. The grounds for the above mentioned beliefs are taken to be entirely explicit and occurrent. Another difference is that these beliefs, unlike IGBs, are usually thought to have a special status such as being *self-evident* or *infallible*. Likewise, in most of the cases cited above the insight in question could not even in principle be arrived at through one’s other faculties, but this is not the case with IGBs.

IGBs clearly differ from perceptual beliefs, memory beliefs, and introspective beliefs as well. The most obvious difference between *perceptions* and IGBs is that perceptions only concern sensory matters whereas IGBs can concern a wide array of propositions. Further, perceptual beliefs are differentially sensitive to what transpires in the field of experience, whereas nothing analogous is true of IGBs.⁴ An *introspection* makes evident a proposition about my own mental states, whereas IGBs concern a wide range of facts external to

4. There are some similarities, however. When I perceive Lydia what I perceive are not just shapes and colors or even just a person, but I see what I see as Lydia. My perception of Lydia comes about not only through current sensory input, but through a linking of current input to stored experiential and conceptual information. My perception of Lydia is a combination of a seeing and an inexplicit thought process. A similar process produces the IGB that Lydia is lying. As I interact with Lydia I observe (perhaps without explicitly taking note of them) certain cues like a shaking hand, dilated eyes, a slight waver in her voice, or perhaps a slightly strange tone or cadence in her way of speaking, all elements which in my past experience, perhaps completely unreflectively, I’ve noticed to be signs of dishonesty. As I look at Lydia now, without even consciously recognizing the particular signs, it seems unmistakably to me that she is lying.

The difference between such an IGB and a perception is that while this IGB involves current sensory input, it is not differentially sensitive to the field of experience as sensory experiences are. Even if I didn’t recognize the person I saw coming towards me as Lydia, and thus didn’t have the perception of Lydia, the sensory experience would still be intricately informative. I would recognize the person I saw as a woman of medium height,

me. Also, introspections, unlike IGBs, are thought to be immediate and by some to be infallible. Finally, IGBs are different from *episodic memories*, in that episodic memories are always autobiographical - they cause one to “re-live” parts of one’s own past—and they usually involve more vivid imagery than IGBs.⁵ However, *semantic* memory—the remembrance of facts—is a kind of implicitly grounded belief, at least when one cannot remember the sources of one’s belief.

C. IGBs Mistaken for the Above

In many instances, beliefs that are thought to be special intuitions and the like might turn out to be mere IGBs. For example, some might consider a belief in other minds to be a special kind of immediate intuition, when (in a given instance at least) it might be just an IGB that results from an inexplicit reasoning process operating on observances of bodily behavior. Likewise, as W.T. Stace observes, belief in the independent existence of objects might not be an intuition but rather an IGB, one influenced by our propensity to choose simple and continuous interpretations of our surroundings (1945b, 140). One can also imagine a purported case of clairvoyance actually being an IGB. Perhaps Wednesday you heard on the radio that the president would be in New York on Sunday. By Sunday you had forgotten about the radio report, but you found yourself with a strong impression that the President was in New York. When later you read in the newspaper that the President was in New York, you mistakenly attribute your belief to clairvoyance.

D. Cooperation with other sources

While IGBs are distinct from the kinds of belief canvassed above, in any given instance, any of them *could* be among the inputs to the inexplicit reasoning processes that issue in IGBs. For instance, I might have an intuition from a moral faculty that it is always wrong to kill an innocent human being. Additionally, I might have other beliefs concerning the nature of conception and embryonic development that lead to an implicit belief (one I’ve never explicitly considered before) that an embryo is a human being. Then someone asks me if I think it is right to destroy unused embryos. An IGB is formed, and I respond, “No, that doesn’t seem right.” This IGB is the result of an implicit inference from

wearing a blue shirt with sleeves that only go so far down the arm, with horn-rimmed glasses, etc., etc. On the other hand, take away my IGB that Lydia is a liar, and it might be that no other IGBs arise from this experience.

5. Occurrent IGBs are often accompanied by some sort of sensuous imagery (due to the fact that concepts themselves tend to be accompanied with some sort of imagery).

a number of implicit premises, one of which derived from a faculty of moral intuition. I will not explore the existence of disputed faculties such as extra-sensory perception, or faculties of mystical, moral, or metaphysical intuition. However, if there are such faculties they may well provide input into the processes that result in implicitly grounded beliefs. For the purposes of this paper, however, we need assume no disputed sources of IGBs.

E. Thesis and comments on justification

An implicitly grounded belief is always perspectively basic—the one who holds it is neither able to reproduce the grounds for the belief, nor to manufacture a strong justifying argument for it. Many epistemologists would say one does not need argumentative support in order for one's basic perceptual, memory, introspective, and *a priori* beliefs to count as warranted. One need not have argumentative support to know that it is sunny outside the window, that one had eggs for breakfast, that one has a headache, or that if all A are B, and all B are C, then all A are C. Need one have good reasons to know that a stock is ready to move, that it is best not to give money to a particular person, that a job applicant would not be an asset to the company, that a friend is angry, or that there is something wrong with one's child? I argue in this paper that the answer is "no." Some IGBs are *properly* perspectively basic, and of those that are basic, some are *properly* basic. IGBs can be justified and warranted. While it is impractical to survey all plausible accounts of justification and warrant to show that IGBs fulfill the criteria of each, below I argue that IGBs enjoy the main qualities required of justified and warranted beliefs by externalist, internalist, and aretaic accounts of warrant. I then discuss a few possible objections to this position. I now turn to a few brief comments about the concept of "justification."

Some epistemologists define "justification" in an *internal* sense, as being within one's epistemic rights or as believing well given one's perspective. Internal justification does not fill the gap between true belief and knowledge. One's beliefs can be true, and one can be rightly convinced that they are, and yet still fail to have knowledge because of factors not perceivable from one's perspective, such as having an unrecognized cognitive defect, lacking crucial information, or being in misleading circumstances.

Other epistemologists use "justification" as that which *does* fill the gap between true belief and knowledge. Such justification involves not only believing well given one's perspective, but something beyond one's perspective falling into place as well, such as one's belief being indefeasible, being formed reliably, or by being formed by properly functioning cognitive faculties. For the purpose of clarity, I will use "warrant" to refer to

internal/external justification, that which together with true belief yields knowledge, and I will use “justification” to refer to internal justification.

II. Truth-Conduciveness and Externalism

While some internalist theories hold that epistemic justification or warrant has nothing to do with truth, most theories, both internalist and externalist, hold that a justified or warranted belief is likely true.⁶ This might seem to be a problem for my thesis, since many people overestimate their intuitive abilities and form IGBs unreliably. For instance, Gilovich et al. studied the “hot hand phenomenon” on six basketball teams including the Philadelphia 76’ers and discovered that while players estimated that they shot better after a series of made shots than after a series of misses (and 9 out of 10 fans agreed), the facts were that players were actually slightly more likely to miss a shot after a series of successful shots than after a series of misses (Gilovich, Vallone, and Tversky 1985). Myers (2002) documents many people often are poor at forming what I have called IGBs, including intuitions about our past and future, about our own expertise, about social situations, about finances, about sports, and about clinical diagnoses. IGB-formation can be adversely influenced by factors such as hindsight bias, self-serving bias, loss aversion, the sunk cost effect, and confirmation bias to name a just a few.

None of these facts, however, impugn my thesis that many of our IGBs are justified and warranted. While there are many cases of poorly formed IGBs there are also plenty of cases of well-formed ones. Documented cases of reliably formed IGBs include the ability of most people to make accurate interpersonal judgements. Myers suggests that being able to quickly and accurately assess another person has had evolutionary survival value, and so it is a “small wonder that the first ten seconds of a relationship tell us a great deal, or that our capacity for reading nonverbal cues crosses cultures” (2002, 33). People will vary significantly in their intuitive abilities because of different cognitive abilities and styles. Likewise, various circumstances and kinds of preparation seem to enhance intuitive ability, such as an openness to experience, general study and immersion in a field, psychological freedom to explore, allowing for a period of non-intentional ‘incubation,’ and affective motivation to arrive at the truth (Monsay 1998, 116–117). For many of us, IGBs about matters with which we have experience such as what another person is

6. “According to this traditional conception of ‘internal’ epistemic justification, there is no logical connection between epistemic justification and the truth” (Chisholm 1988, 286). However, as Kihyeon Kim (1993) points out, a number of internalists, such as Lehrer and Bonjour, view the truth connection as a necessary component of epistemic justification.

thinking, about what a spouse is feeling, or whether a child is well are reliable. And in other, more remarkable and well-prepared people, the range of reliable IGBs is even more extensive.

Though the processes that produce IGBs *can* be unreliable in some cases, this is also true of those belief-forming processes that are universally acknowledged to be capable of producing justified and warranted beliefs—reasoning, perception, memory, and introspection. Since we do not withhold positive epistemic status from beliefs formed by such processes when they are in fact reliably formed, the unreliability of IGBs in some instances does not mean that IGBs cannot be warranted. Some people form IGBs more accurately than others, but in many cases processes that lead to IGBs are reliable, and thus IGBs can enjoy externalist warrant.

Consider one kind of externalism, defeasibility theory. As defeasibility theorists such as David Annis, Peter Klein, Keith Lehrer, and Marshall Swain indicate, the warrant for a belief can be compromised by contrary evidence that the subject does not have (See Annis 1973, Klein 1971, Lehrer 1990, and Swain 1981). For instance, Annis writes that a belief *h* is known when *h* is believed, is true, and there is “a set of statements *A* that fully justifies *S* in believing that *h* and there is no statement that defeats this justification” (Annis 1973, 199). Of the contrary evidence that might defeat a belief, some will be such that the subject might have access to it, but only through an IGB-formation process. For instance, I may not be able to prove my friend is upset through argument, though my strong gut feeling tells me that he is. This feeling may arise from facts about present and previous observations that I am not able to articulate. If I ignored my strong gut feeling and concluded that nothing is wrong because none of the propositional evidence I could muster proves otherwise, I would adopt an epistemic practice which in this and similar cases leads to unwarranted belief. Defeasibility theories suggest that in many cases the more evidence a subject can access, the less likely it is that her belief will be unwarranted. Thus, sometimes testing conscious reasoning against a source that takes more evidence into consideration will make sense if one desires to believe in a way that promotes an epistemically desirable set of beliefs.

Most contemporary externalists do add at least one *internal* constraint on warrant—a no-defeater clause. According to the no-defeater clause, for a belief to be warranted the subject must not believe (nor believe upon reflection) that her belief is defeated. Other versions substitute “justifiably believe” or “warrantedly believe” for “believe” in this definition. One might think that those who hold IGBs do have a defeater for their beliefs, namely the fact that the beliefs are perspectively basic. In the next section, I will argue

that the fact that an IGB is perspectively basic does not keep it from being justified or warranted.

The externalist emphasizes reliability—things going right from an external perspective—more than the subject herself explicitly understanding that things are going right. Given this perspective, IGBs arrived at in a reliable manner can be warranted. But are things more challenging for IGBs from an internalist perspective, and more particularly in light of the main motivation for internalism, deontology?

III. Internalism

A. Deontology

Deontological theories maintain that justification or warrant requires fulfilling one's epistemic duty or duties. Hilary Kornblith argues that one is obliged to responsibly seek truth and gather evidence. Chisholm holds that one has an epistemic duty to try to believe truths. In particular, he defines justification ultimately in terms of epistemic reasonability, and states that "epistemic reasonability could be understood in terms of the general requirement to try to have the largest possible set of logically independent beliefs that is such that the true beliefs outnumber the false beliefs" (Chisholm 1980, 7).

Chisholm and Kornblith typify most proponents of epistemic duty in that they enjoy believing in such a way, or preparing oneself to believe in such a way, as to attain the "epistemic truth goal." The epistemic truth goal is not merely to believe a large number of truths and a small number of falsehoods, for this would be best met by believing only simple mathematical truths, and avoiding all other thoughts. The goal of the epistemic life is to arrive at a sufficiently complex, comprehensive, and important set of true beliefs. IGB-formation can play a significant role in pursuing such a comprehensive, epistemically desirable set of true beliefs, for it can enable a person to form interesting, diverse, and important true beliefs that would not be arrived at by other means.⁷ I may know a friend is angry even when the evidence is so subtle that I cannot convince others of his anger. It may be that no matter how detailed my descriptions, my interlocutor may still favor another conclusion, perhaps that my friend has indigestion. I will be reduced to saying,

7. Eubanks et al. have discovered that intuition is uniquely capable of providing creative, original solutions to difficult problems (Eubanks, Murphy and Mumford 2010). Lewicki et al. (1992, 799) conclude from their research that "Our nonconscious information-processing system appears to be incomparably more able to process formally complex knowledge structures, faster and 'smarter' overall than our ability to think and identify meanings of stimuli in a consciously controlled manner."

“Look, I can’t explain it, but I could just *tell*. He *was* angry.” In such cases, propositions are inadequate for capturing all of the grounds for my beliefs. In cases of intuitive insight, we are able to expand our set of true beliefs in a way that would be impossible if we attempted to withhold our belief. Each such expansion lays the groundwork for acquiring more true beliefs that are related to the first. There are times, then, when forming and maintaining an IGB is more conducive to the epistemic truth goal than believing only what one can establish through argument.

One might think that even though forming an IGB can sometimes be a good way of reaching the epistemic truth goal, IGBs should still not be considered warranted because there is always a *better* alternative to forming an IGB. On this view, a belief is not warranted if one can expect to do better with respect to the truth goal by using a different belief-forming method. Many perceptual beliefs, then, are thought to be properly basic while IGBs are not because a good alternative to forming perceptual beliefs does not exist. Memory, rational intuition, and introspection are not well suited for producing perceptual beliefs. One might choose to reason discursively to a perceptual belief, but the result would not be epistemically superior to grounding the belief in perceptual experience. One might reason like this: I am having a perceptual experience with features *q*, *r*, and *s*. In past experiences, such features were truly indicative of a squirrel running up a tree. Therefore, I conclude that there is a squirrel running up a tree.

Notice three facts about such an odd technique of belief-formation. First, perception is still involved in this discursive process, and so if the purpose of arriving at the belief in this way is to avoid using perception that purpose is never realized. Second, the result of the discursive process is far less compelling than if the perception alone were to ground the belief. Finally, it certainly would not promote the epistemic truth goal for me to reach all of my perceptual beliefs through such a reasoning process even if I could. It would take so much time and effort, and often be so fruitless, that I would be able to expand my set of true beliefs far less while not improving its truth to falsehood ratio at all.

While superior alternatives to IGB-formation processes sometimes exist, in some cases, for some subjects, IGB-formation processes share with perceptual processes the three characteristics mentioned above. In these cases, any alternative belief-forming process will still involve an IGB, will be less compelling than if one’s belief were grounded solely in the IGB, and will be a poorer way of trying to achieve epistemic excellence. A person who is very intuitive in interpersonal matters may reliably form the strong IGB that a colleague is deceptive, and yet may be unable to specify the grounds for this belief. He could try to construct an argument for this proposition, but any available argument might be far less compelling than his clear and forceful IGB, and at any rate would be to

some degree dependent upon other IGBs, those which at some level would be required to support the implied premises for this argument. Likewise, the effort of trying to produce such an argument would require significant time and energy which, if the person had followed the intuitive path, might already have been used to produce a number of other interesting and important true beliefs. For this subject in this circumstance, the truth goal is best pursued by forming the IGB.

Since forming and maintaining an IGB can be a good way of pursuing the truth goal, forming and maintaining an IGB can be a good way of fulfilling epistemic duty, as may becoming more sensitive to and developing one's intuitive modes of thinking. If an intuitive interviewer is convinced that a job candidate would be a bad hire after talking with him, she may believe responsibly even if she cannot provide a justifying argument for this conviction. A genius at solving crimes may responsibly believe that a crime happened in a certain way, just because it seems strongly to him that it is so, even if he can give no good argument for this conclusion. Scott Johnston may believe responsibly when he concludes that a certain company's stock is about to move, even if this belief stems from what he calls a "sixth sense." Each of these individuals may be acting in the way that, given their abilities, experiences, and circumstances, best promotes the epistemic truth goal.

Some proposed epistemic duties go beyond requiring one to pursue the epistemic truth goal to specifying that one must do so in a particular fashion. For instance, Laurence Bonjour believes that we are obliged to "reflect critically on our beliefs" (Bonjour 1980, 63) and to accept "all and only beliefs which one has a good reason to think are true" (Bonjour 1986, 101). It should be clear from the preceding that Bonjour's requirement is biased in favor of a certain kind of thinker. He ignores the fact that some more intuitive people are able to believe responsibly even apart from critical reflection.

To claim that beliefs like "Barstow was poisoned" or "This stock is about to move" must be supported by good reasons in order to be warranted is to ignore differences among individual cognitive styles. Some people are clearly very accurate in believing in unconventional, more intuitive, ways. In some cases, these same people may be among the large portion of the human population that is only semi-skilled at conscious reasoning processes.⁸ The specific way in which an epistemic duty must be fulfilled, then, differs

8. For instance, studies have shown that in some cases elderly people are more accurate when they follow emotional and intuitive decision-making processes rather than explicit, reflective ones (Bruine de Bruin, Parker and Fischhoff 2012; Mikels et al. 2010).

from person to person. Epistemic duty must be understood in a way that is flexible enough to apply to all cases of responsible belief, intuitive as well as explicitly reflective.

B. Internalism and Special Access

Internalism requires a believer to have special access to the grounds of her belief, as well as perhaps to the adequacy of those grounds, in order for her belief to be justified.⁹ Since IGBs are perspectively basic by definition, an internalist might argue that IGBs cannot be justified. And since justification is thought by the internalist to be necessary for warrant, IGBs cannot be warranted either. I will argue that one who holds an implicitly grounded belief *can* have access to her grounds and their adequacy. This access is implicit, but as it turns out, we will see that there is no good reason for an internalist to claim that only *explicit* access will do.

For most internalists, the accessibility requirement seems to follow quite naturally from a commitment to deontology. Bonjour reflects this motivation for an access requirement: "One must accept all and only beliefs which one has good reason to think are true. To accept a belief in the absence of such a reason...is to neglect the pursuit of truth; such acceptance is, one might say, *epistemically irresponsible*" (Bonjour 1986, 101). To believe responsibly one must have a good reason, and this implies some kind of explicit access to the grounds for one's beliefs as well as to their adequacy.

Alston and Plantinga reject deontology and with it this explicit accessibility requirement (Alston 1988a; Plantinga 1993). If they are right to do so, then there is no challenge here to IGBs being warranted. But even if one agrees with a deontological conception of warrant, one need not insist that access to one's grounds and their adequacy be explicit. One can be a deontologist and still hold that IGBs can be warranted. In the previous section, I argued that even though an IGB is perspectively basic, one can still hold an IGB responsibly. I suggested, for instance, that Scott Johnston's belief that a stock is about to move might be responsible (and thus justified) even if he cannot provide a complete argument for his belief. How could this be so? Well, if Johnston is very intuitive, if he has a sixth sense, he will do better with respect to the truth goal by following his gut instincts. But, the deontologist will reply, is it enough for him to merely *have* this sixth sense if he is unaware of it? To believe responsibly, it would seem that he must have a good reason to think that he has this special skill and that the belief produced by it is well-grounded. Perhaps. But in what sense must he *have* this good reason? Need he be

9. For a treatment of the varieties of internalism, see Alston 1988a and Alston 1988b.

explicitly aware of it? Must he be able to become explicitly aware of it upon reflection? Neither is required in order for an intuitive person to believe responsibly. The intuitive person, naturally enough, will have an intuitive or implicit grasp of the well-groundedness of his IGB. He forms and maintains his IGBs when he has this implicit grasp of their well-groundedness and when such an implicit assurance is lacking, he at least tries to withhold or disbelieve, to do further research, to test hypotheses, etc. (Not only is the ability to make grounds explicit not necessary for warrant, in many cases it would be inadvisable, since many *intuitive* thinkers will arrive at a worse result through explicit reflection.¹⁰) Of course, if implicit assurance of the well-groundedness of one's beliefs comes in degrees, responsible believing may require various courses of action based on the degree (or even the type, if there are types) of intuitive assurance the believer has. Thus, one can plausibly be a deontologist and still hold that some implicitly grounded beliefs are justified and warranted. To do so would be to embrace an accessibility requirement, but to allow that one's access to grounds and/or their adequacy may be implicit in some cases.

The explicit access required by the internalist usually involves being able to reproduce the grounds of one's belief if asked. But why should the *accessibility* of grounds, as opposed to their being actually accessed, be an element in a belief's being justified or warranted? What good does a counterfactual do for the believer in her current believing? Isn't the important matter that her belief *be* well-grounded? If it is not, what does it matter that later she is able to produce grounds for that belief? If the believer produces an argument for a belief when questioned about it, she may be creating an argument for the belief that was never operational in the formation or maintenance of the belief before.¹¹ If that argument is a good one, then the belief might gain a justification that it did not have before, but there is nothing about *accessibility* to a good argument that would make an act of believing justified or warranted.

What is important is not *accessibility* of grounds and their adequacy, which could never make a belief justified or warranted, but some sort of functional *access* of those grounds by the believer *while* she believes. But to require in addition to access, that one must be able to produce grounds for the belief is too strong. If an intuitive person consistently forms true IGBs in a certain subject area, this suggests that she does have adequate access to the grounds of her beliefs, even if this access is implicit. Further,

10. For instance, Wilson and Schooler (1991) showed that intuitive self-knowledge for some people is compromised by explicit reflection.

11. Nisbett and Wilson (1977) and Wilson and Schooler (1991) argue that this is the case with regards to intuitive self-knowledge. Haidt (2001) argues that this is typically the case with regards to moral intuitions.

young children can have justified and warranted beliefs even when they are not able to articulate the grounds of their beliefs. In the end, we must acknowledge that one can have an implicit grasp of the well-groundedness of one's beliefs. This implicit special access is psychologically internal to the believer, and is really the only kind of access which can rightly be required for warranted belief.

Why has explicit accessibility been mistakenly thought to be necessary for justification and warrant? Perhaps because it does serve as a sign that one has the actual access to one's grounds and their adequacy which indeed *is* necessary for justification and warrant. If a person is able to provide a good argument for her belief if asked, then it makes sense to think that her belief well-grounded. I admit that explicit accessibility is often a decent sign of well-groundedness, but it is not a fail proof sign. It is not *sufficient* for justification, because a person might concoct an argument "on the spot" that was never involved in the production or maintenance of her belief. It is not *necessary* because there is no necessary connection between a beliefs being well-grounded (or one having an implicit assurance of this fact) and being able to explicitly produce grounds. The conviction that there is such a necessary connection seems to be the result of bias in favor of a certain kind of thinker. If explicit accessibility is not a legitimate necessary condition for justified belief, then internalism has no grounds for denying that implicitly grounded beliefs can be justified.

IV. Aretism and Proper Function

Virtue theorists such as Alvin Goldman, Ernest Sosa, and Linda Zagzebski believe that a warranted belief must arise from a truth-conducive virtue. As Goldman indicates, "Beliefs acquired (or retained) through a chain of 'virtuous' psychological processes qualify as justified; those acquired partly by cognitive 'vices' are derogated as unjustified" (Goldman 1992, 157). Goldman and Zagzebski offer informal lists of intellectual virtues and vices. Goldman's list follows:

I shall assume that the virtues include belief formation based on sight, hearing, memory, reasoning in certain 'approved' ways, and so forth. The vices include intellectual processes like forming beliefs by guesswork, wishful thinking, and ignoring contrary evidence. (Goldman 1992, 158)

IGBs appear neither on Goldman's list of virtues nor on the list of vices. (As was discussed earlier, IGBs are not the result of "guesswork."¹²) Given, however, that Goldman

12. Neither do IGBs involve the vice that Goldman lists, "ignoring contrary evidence." It is helpful, though, to distinguish between ignoring contrary evidence and believing *in spite of* contrary evidence. I may persist in

states that “belief-forming processes...are deemed virtuous because they (are deemed to) produce a high ratio of true beliefs” (Goldman 1992), it would seem that some IGB-formation processes should be considered virtuous by him. Zagzebski’s list of intellectual virtues includes qualities that are involved in the production of IGBs, such as the “adaptability of the intellect,” “being able to recognize reliable authority,” and “insight into persons, problems, and theories” (Zagzebski 1996, 114).

The *definitions* of intellectual virtue that these virtue theorists offer also suggest that IGBs can result from intellectual virtue, and so can fulfill the aretaic condition for warrant. Goldman describes intellectual virtue as a reliable process, where “process” is “construed as the sort of entity depicted by familiar flow charts of cognitive activity. This sort of diagram depicts a sequence of operations (or sets of parallel operations), ultimately culminating in a belief-like output” (Goldman 1992, 165). Zagzebski defines a virtue as “a deep and enduring acquired excellence of a person, involving a characteristic motivation to produce a certain desired end and reliable success in bringing about that end” (Zagzebski 1996, 137). Intellectual virtues for Sosa are “powers or abilities to distinguish the true from the false in a certain subject field, to attain truth and avoid error in that field” (Sosa 1991, 236). IGBs do result from processes such as Goldman describes, these processes are an entrenched and reliable acquired excellence as Zagzebski requires, and they can, as Sosa suggests, distinguish the true from the false in a particular subject field. The main distinguishing mark of an intellectual virtue on each account is that it leads reliably to true belief. The second aspect of intellectual virtue that each suggests is that it involves a settled disposition to form beliefs in a certain way. Since IGBs can fulfill these conditions, it seems that IGBs can in principle fulfill aretaic accounts of warrant.

Plantinga’s proper functionalism holds that a warranted belief must be formed in accordance with the subject’s cognitive design plan. The widespread and successful formation of IGBs in both common and academic life suggests that if there is a human cognitive design plan, IGB-formation is part of it. Plantinga acknowledges that people can differ significantly in cognitive equipment and methods. He is inclined to think that the Twins described by Oliver Sacks, who were severely mentally challenged and yet could perform amazing mathematical calculations with incredible rapidity, had knowledge of their conclusions (Plantinga 1993), and so, apparently, he would agree that different

believing that I was out of town yesterday even though witnesses say that they saw me at a local store. The contrary evidence in this case is defeated by my clear memory of being out of town, and so in this case I retain my memory belief in the face of contrary evidence. Such believing in the face of contrary evidence does not exhibit a vice but a virtue, and sometimes one who holds an IGB will exhibit this virtue.

subjects may have or acquire cognitive design plans, successfully aimed at truth, that differ from those had by the majority of people. A detective who intuitively arrives at amazing conclusions about crimes could be one such person, and Scott Johnston another. Their beliefs could be warranted even though many others would not be warranted in believing as they do given the same evidence.

V. Objection - The Slippery Slope

If we accept that IGBs can be warranted, must we say the same about all manner of odd beliefs, such as beliefs putatively formed by clairvoyance, telepathy, ESP, or past-life memories? (I will call these “paranormal beliefs.”) Aren’t IGBs and paranormal beliefs epistemically indistinguishable, and since paranormal beliefs should not be considered warranted, doesn’t this mean the same is true of IGBs? The answer to these questions is that IGBs *can* be epistemically distinguished from paranormal beliefs.

The main difference between IGBs and paranormal beliefs is that IGBs come about through a natural process, the contours of which are basically understood by cognitive psychologists. IGBs come about through the mind’s operation via induction, deduction, chunking, and the association of ideas on information gained over time from experiences mediated by normal human faculties—perception, memory, introspection, reasoning, and testimony. Beliefs purportedly formed through acts of clairvoyance, telepathy, ESP, and memories of previous lives have not yet been shown to have such a scientifically understandable natural basis. Thus, from an epistemological perspective, we have reason to doubt that such beliefs issue from reliable, stable dispositions of the subject, and are rooted in grounds that are in fact truth-conducive.

My basic IGB that Lydia is lying may well be grounded in perceptual cues that in the past have proven deceptive in people I’ve met. But what could possibly be the truth-conducive grounds of the belief that I used to be an Egyptian prince in a previous life? What memory traces in my brain or mind could give rise to such a belief? Given our current understanding of memory, there is nothing in which such a belief could be reliably grounded, and so such a belief seems unwarranted. The same can be said concerning the clairvoyant belief that right now Fidel Castro is listening to Miles Davis. If I have no information about Castro, about his habits, and about what he is doing now, through perception, testimony, or any other means, in what could the belief that he is listening to Miles Davis be grounded? Given what we know about human cognitive processes, no truth-conducive grounds exist for this belief. That IGBs come about through a natural,

scientifically understandable process is a reason to countenance their being warranted while still doubting that paranormal beliefs are warranted.

Sometimes paranormal beliefs are claimed to have “supernatural origins.” If so, such reputed mechanisms may have to be established by markedly different lines of inquiry. For our purposes at any rate, this would merely serve as another distinguishing characteristic between IGBs and paranormal beliefs. Finally, if it were scientifically verified that some people consistently form paranormal beliefs reliably, then even without a naturalistic explanation one might have to admit they were warranted. But in that case, any association with paranormal beliefs would not impugn the warrant of IGBs.

VI. Conclusion

Implicitly grounded beliefs are common, and especially so for intuitive people. As Stace indicates:

We have them about all subjects, about the physical world, about ourselves, about each other, about morals, about our breakfasts, about our work, our play, in short about everything. The whole fabric of human thinking, from our most trivial thoughts to our most profound philosophical treatises, is shot through with them. (1945a, 35)

I have argued that IGBs can be justified and warranted. They can be properly perspectively basic, and those that are basic can be properly basic. To hold that IGBs cannot be justified and warranted is probably to assume falsely too much homogeneity in cognitive equipment, and to assume an unwarranted bias favoring explicit reasoning processes. Forming and maintaining IGBs, as well as developing one’s intuitive abilities, can be particularly good ways of striving towards the epistemic truth goal, and so IGBs can fulfill the most prominent condition on warrant from externalist theories of warrant. For this reason, IGBs can also be deontologically justified. IGBs also fare well on internalism more generally because they arise in subjects who do have an effective form of internal access to the grounds of their beliefs, albeit an implicit one. W.T. Stace was right to argue that in the philosophical community, one cannot expect to base one’s views on IGBs and have them accepted by those who do not share one’s perspective. One should do whatever one can to make the grounds for one’s beliefs explicit in such contexts. But in order for individuals to have knowledge, such an ability to make one’s grounds explicit is not required.

References

- Alston, W. 1988a. "An Internalist Externalism." *Synthese* 74 (3): 265–283.
- . 1988b. "Justification and Knowledge." In *Proceedings of the XVII World Congress of Philosophy, Volume 5*. Montreal: Editions Monmorcency.
- Annis, D. 1973. "Knowledge and Defeasibility." *Philosophical Studies* 24 (3): 199–203.
- Barrett, L., M. M. Tugade, and R. W. Engle. 2004. "Individual differences in working memory capacity and dual-process theories of the mind." *Psychological Bulletin* 130 (4): 553–573.
- Berne, E. 1962. "Intuition VI: The Psychodynamics of Intuition." *Psychiatric Quarterly* 36 (1–4): 294–300.
- Berne, E. 1949. "The Nature of Intuition." *Psychiatric Quarterly* 23 (2): 203–226.
- Bonjour, L. 1986. "Can Empirical Knowledge Have a Foundation?" In *Empirical Knowledge*, by P. Moser, 95–115. Totowa, New Jersey: Rowan and Littlefield.
- Bonjour, L. 1980. "Externalist Theories of Empirical Knowledge." In *Midwest Studies in Philosophy V, Studies in Epistemology*, by P. French, T. Uehling and H. Wettstein, 53–73. Minneapolis: University of Minnesota Press.
- Bruine de Bruin, W, A. M. Parker, and B. Fischhoff. 2012. "Explaining adult age differences in decision-making competence." *Journal of Behavioral Decision Making* 25 (4): 352–360.
- Bunge, M. 1962. *Intuition and Science*. Englewood Cliffs, N.J.: Prentice-Hall.
- Chassy, P., and F. Gobet. 2011. "A hypothesis about the biological basis of expert intuition." *Review of General Psychology* 15 (3): 198–212.
- Chisholm, R. 1980. "A Version of Foundationalism ." In *Midwest Studies in Philosophy V, Studies in Epistemology*, by P. French, T. Uehling and H. Wettstein, 3–32. Minneapolis: University of Minnesota Press.
- Chisholm, R. 1988. "The Indispensibility of Internal Justification." *Synthese* 74 (3): 285–296.
- Crutchfield, R. 1960. "Male Superiority in 'Intuitive' Problem Solving." *American Psychologist* 15 (7): 429.
- Eubanks, D. L., S. T. Murphy, and M. D. Mumford. 2010. "Intuition as an influence on creative problem-solving: The effects of intuition, positive affect, and training." *Creativity Research Journal* 22 (2): 170–184.
- Evans, J., and K. Frankish. 2009. *In two minds: Dual processes and beyond*. New York: Oxford University Press.
- Eyessenck, H. 1990. "Implicit and Explicit Memory." In *The Blackwell Dictionary of Cognitive Psychology*, by H. Eyessenck, 185–6. Oxford: Basil Blackwell Ltd..

- Gilovich, T., R. Vallone, and A. Tversky. 1985. "The Hot Hand In Basketball: On the Misperception of Random Sequences." *Cognitive Psychology* 17 (3): 295–314.
- Gobet, F., P.C.R. Lane, S. Cheng, P.C.H. Croker, G. Jones, I. Oliver, and J.M. Pine. 2001. "Chunking mechanisms in human learning." *Trends in Cognitive Sciences* 5 (6): 236–243.
- Goldman, A. 1992. "Epistemic Folkways and Scientific Epistemology." In *Liaisons: Philosophy Meets the Cognitive and Social Sciences*, by A. Goldman, 155–175. Cambridge, MA: MIT Press.
- Gore, J, and E. Sadler-Smith. 2011. "Unpacking Intuition: A Process and Outcome Framework." *Review of General Psychology* 15 (4): 304–316.
- Graf, P., and M.E.J. Masson. 1993. *Implicit Memory: New Directions in Cognition, Development, and Neuropsychology*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Griffin, T., S. Schwartz, and K. Sofronof. 1998. "Implicit Processes in Medical Diagnosis." In *Implicit and Explicit Mental Processes*, by K. Kirsner, C. Spelman, M. Mayberry, A. Obrien-Malone, M. Anderson and C. MacLeod, 329–41. Mahwah, NJ: Lawrence Erlbaum.
- Hadamard, J. 1954. *An Essay on the Psychology of Invention in the Mathematical Field*. New York: Dover Publications.
- Haidt, J. 2001. "The emotional dog and its rational tail." *Psychological Review* 108 (4): 814–834.
- Kaufman, S.B. 2009. "Faith in intuition is associated with decreased latent inhibition in a sample of high-achieving adolescents." *Psychology of Aesthetics, Creativity, and the Arts* 3 (1): 28–34.
- Kim, K. 1993. "Internalism and Externalism in Epistemology." *American Philosophical Quarterly* 30 (4): 303–316.
- Kirsner, K., C. Spelman, M. Mayberry, A. Obrien-Malone, M. Anderson, and C. MacLeod. 1998. *Implicit and Explicit Mental Processes*. Mahwah, NJ: Lawrence Erlbaum.
- Klein, P. 1971. "A Proposed Definition of Propositional Knowledge." *The Journal of Philosophy* 68 (16): 471–482.
- Kunst-Wilson, W.R., and R.B. Zajonc. 1980. "Affective Discrimination of Stimuli that cannot be Recognized." *Science* 207 (4430): 557–558.
- Lehrer, K. 1990. *Theory of Knowledge*. London: Routledge.
- Lewicki, P., T. Hill, and M. Czyzewska. 1992. "Nonconscious acquisition of information." *American Psychologist* 47 (6): 796–801.
- Mach, E. 1896. "On the Part Played By Accident in Invention and Discovery." *Monist* 6 (2): 161–175.

- Mikels, J, and T. Gilovich. 2013. "The Dark Side of Intuition: Aging and Increases in Nonoptimal Intuitive Decisions." *Emotion* 13 (2): 189–195.
- Mikels, J.A., C.E. Lockenhoff, S.J. Maglio, M.K. Goldstein, A. Garber, and L.L. Carstensen. 2010. "Following your heart or your head: Focusing on emotions versus information differentially influences the decisions of younger and older adults." *Journal of Experimental Psychology: Applied* 16 (1): 87–95.
- Monsay, E.H. 1998. "Intuition in the Development of Scientific Theory and Practice." In *In Intuition, The Inside Story: Interdisciplinary Perspectives*, by R. Davis-Floyd and P. Arvidson, 103–120. New York: Routledge.
- Myers, D.G. 2002. *Intuition: Its Powers and Perils*. New Haven: Yale University Press.
- Nisbett, R. E., and T. D. Wilson. 1977. "Telling more than we can know; Verbal reports on mental processes." *Psychological Review* 84 (3): 231–259.
- Plantinga, A. 1993. "Why We Need Proper Function." *Nous* 27 (1): 66–82.
- Poincare, H. 1946. *The Foundations of Science*. Lancaster, PA.: The Science Press.
- Rouse, W.B., and N.M. Morris. 1986. "On Looking Into the Black Box: Prospects and Limits in the Search for Mental Models." *Psychological Bulletin* 100 (3): 349–363.
- Russell, B. 1956. "How I Write." In *Portraits from Memory and other Essays*, by B. Russell, 194–198. London: George Allen and Unwin.
- . 1948. *Human Knowledge, Its Scope and Limits*. London: Allen & Unwin.
- Schachter, D. 1987. "Implicit Memory: History and Current Status." *Journal of Experimental Psychology: Learning, Memory, and Cognition* 13 (3): 501–518.
- Sosa, E. 1991. *Knowledge in Perspective*. New York: Cambridge University Press.
- Speelman, C. 1998. "Implicit Expertise: Do We Expect Too Much From Our Experts." In *Implicit and Explicit Mental Processes*, by K. Kirsner, C. Speelman, M. Mayberry, A. Obrien-Malone, M. Anderson and C. MacLeod, 135–48. Mahwah, NJ: Lawrence Erlbaum.
- Stace, W.T. 1945a. "The Problem of Unreasoned Beliefs I." *Mind* 54 (214): 27–49.
- . 1945b. "The Problem of Unreasoned Beliefs II." *Mind* 54 (214): 122–147.
- Strack, F., and R. Deutsch. 2004. "Reflective and impulsive determinants of social behavior." *Personality and Social Psychology Review* 8 (3): 220–247.
- Swain, M. 1981. *Reasons and Knowledge*. Ithaca, NY: Cornell University Press.
- Szalita-Pemow, A. 1955. "The Intuitive Process and its Relation to Work with Schizophrenics." *Journal of the American Psychoanalytical Association* 3 (1): 7–18.
- Tannous, P. 1997. *Investment Guru*. New York: New York Institute of Finance.
- Thrash, T., and A. Elliot. 2003. "Inspiration as a Psychological Construct." *Journal of Personality and Social Psychology* 84 (4): 871–889.

- Wallas, G. 1926. *The Art of Thought*. New York: Harcourt, Brace, and Co..
- Westcott, M. 1968. *Toward a Contemporary Psychology of Intuition: A Historical, Theoretical, and Empirical Inquiry*. New York: Holt, Rinehart, and Winston.
- Wilson, T. D., and J. W. Schooler. 1991. "Thinking too much: Introspection can reduce the quality of preferences and decisions." *Journal of Personality and Social Psychology* 60 (2): 181–192.
- Zagzebski, L. 1996. *Virtues of the Mind: An Inquiry into the Nature of Virtue and the Ethical Foundations of Knowledge*. Cambridge : Cambridge University Press.